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JOHN C. FRYE, CHIEF

P. O. Box I
 Warrenville, Illinois 60555
 January 30, 1974

Kane County - Land Pollution
 Montgomery/Thom
 ILLINOIS

Mr. Thomas P. Clark
 Division of Land Pollution Control
 Illinois Environmental Protection Agency
 2200 Churchill Road
 Springfield, Illinois 62706

FEB 1 1974

Dear Mr. Clark:

This is in response to your request for a description of the hydrogeology in the vicinity of a solid waste disposal site located in the SW $\frac{1}{4}$ of Section 32, T. 38 N., R. 8 E. at the junction of U.S. Route 30 and Albright Road.

The site was visited on January 29, 1974, in the company of Mr. Herbert Phillips, son of the owner of the property on which filling is occurring. It is in relatively flat topography three-quarters of a mile west of the Fox River and there is a small east-west trending dry ditch immediately to the south of the site. Residential development has taken place south of the site and some light industrial development to the north-east and east. The area to the west and north of the site is wooded or used for agricultural purposes. There is another nearly completed land-fill one-quarter of a mile to the north of the site on Albright Road and, I understand, that in this area wells are used for water supply and septic systems for waste disposal.

According to Mr. Phillips, the site was formally a gravel pit and a borrow pit, and seventy-five percent of the site has already been filled with materials such as cinders and broken concrete. There is an excavation in the southeast part of the site which is yet to be filled. This excavation is about fifteen feet deep and contains water in its deepest parts which probably represents the top of the zone of saturation. No exposures of the surficial deposits were seen.

According to the regional maps in the State Geological Survey



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Files, the glacial drift in this area is fifty to sixty feet in thickness. The surface deposits have been mapped as valley train sand and gravel and there is a large sand and gravel aquifer twenty-five to fifty feet in thickness at the base of the glacial drift. Water well records are poor, however, they show that there is some fine-textured material interbedded in the glacial drift. These fine-textured units appear to be scattered with little lateral continuity.

The bedrock beneath the glacial drift is the extreme southern edge of the Silurian dolomite aquifer. The boundary between the Silurian and the Maquoketa Group lies along the south side of the property.

We have records of fifteen water wells within one-half mile of the site. These wells produce from the Silurian dolomite aquifer or from dolomite units within the Maquoketa Group. These records are not complete and some of these wells may have been abandoned or new wells may have been drilled.

Under natural conditions, we would expect that ground-water movement would be downward into the sand and gravel and to the east towards the Fox River. However, there are a large number of wells in the area and this movement may have been modified by pumpage.

If contaminants are produced at this site, they could reach the shallow wells in the area. However, considering that the site is seventy-five percent filled and that other sources of contamination are probably present in the vicinity, in my judgment, it is unlikely that filling the remainder of the site to the level of the surrounding ground with relative-ly inert material would have an appreciable effect on the quality of the underlying ground water.

Yours truly,

George M. Hughes
Associate Geologist
Northeastern Illinois Office
Section of Ground-Water Geology
and Geophysical Exploration

GMH/jgc

cc: Herb Phillips
Ed Marek